AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended)   A readout controlling apparatus for controlling reading conditions while reading data from a recording medium, comprising:

an error correcting means for correcting errors in said read data;

an error rate calculating means for calculating an error rate of said errors in said read data; and

a control means for dynamically controlling and adjusting ~~an amount of light transmitted from a laser diode used in reading said data, or a frequency of a signal superimposed on a signal applied to the laser diode or an amplitude of the signal superimposed on the signal applied to the laser diode, based on the calculated error rate in order to reduce the error rate wherein the adjustment occurs while reading user data from the disc in response to the bit error rate exceeding a predetermined level; and~~ reading conditions;

~~wherein the error correcting means is comprised of a plurality of counters and registers with at least one reset signal generator.~~

wherein the control means performs a control operation so as to determine a parameter that makes an error rate smaller before or during playback of the recording medium, or if a condition of playback deteriorates, the control operation including modulation of the parameter

page 2 of 14

at a predetermined frequency, calculation of an amount of error rate variation synchronized with the modulation, and variation of the parameter in proportion to the calculated amount.

2. (Currently Amended) A readout controlling apparatus as set forth in claim 1, wherein:

said data is coded in units of code blocks; and

said error correcting means corrects errors in said code blocks;

said error rate calculating means calculates said error rate by either determining a number of bytes of data ~~where~~ in which said error correction was correctly carried out and a number of bytes of data ~~wherein~~ in which said error correction was not correctly carried out, or a number of code blocks ~~wherein~~ in which said error correction was correctly carried out, and a number of blocks wherein said error correction was not correctly carried out.

3. (Currently Amended) A readout controlling apparatus as set forth in claim 2, wherein said error rate calculating means calculates said error rate by using either cumulative addition of the number of bytes of data ~~wherein~~ in which said error correction was correctly carried out, and the number of bytes of data ~~wherein~~ in which said error correction was not correctly carried out, or the number of code blocks ~~wherein~~ in which said error correction was correctly carried out, and the number of blocks ~~wherein~~ in which said error correction was not correctly carried out for at least one code block.

4. (Canceled)

5. (Currently Amended) A readout controlling apparatus as set forth in claim 2, wherein:

said data comprises information arranged in rows and columns, and ~~further~~ wherein an inner code parity is determined for the rows, and an outer code parity is determined for the columns and

said error correcting means performs inner code error correction using said inner code parity and outer code error correction using said outer code parity.

6. (Currently Amended) A readout controlling apparatus as set forth in claim 5, further

page 4 of 14

comprising:

a memory means for storing the results of cumulative addition of said inner code error corrections and

a memory means for storing the results of cumulative addition of said outer code error corrections.

7. (Previously Presented)   A readout controlling apparatus as set forth in claim 6, wherein said error rate calculating means reads the cumulative addition values stored in the memory means.

8-18. (Canceled)

19. (Currently Amended)   A recorder for recording data on a storage medium, comprising:

a reading means for reading recorded data;

an error correcting means for correcting errors in data read by the reading means;

an error rate calculating means for calculating an error rate; and

page 5 of 14

a control means for dynamically controlling and adjusting ~~a frequency of a signal~~

~~superimposed on a signal applied to a laser diode used in reading the data or an amount of light~~

~~transmitted from the laser diode;~~ reading conditions;

~~wherein the adjustment occurs while reading user data from the disk in response to the bit~~

~~error rate exceeding a predetermined value; and~~

~~wherein the error correcting means is comprised of a plurality of counters and registers~~

~~with at least one reset signal generator.~~

wherein the control means performs a control operation so as to determine a parameter

that makes an error rate smaller before or during playback of the recording medium, or if a

condition of playback deteriorates, the control operation including modulation of the parameter

at a predetermined frequency, calculation of an amount of error rate variation synchronized with

the modulation, and variation of the parameter in proportion to the calculated amount.

20.   (Currently Amended)   A readout controlling method for controlling reading

conditions while reading data from a recording medium comprising the steps of:

applying error correction to data read from the recording medium;

calculating an error rate of said error correction step; and

page 6 of 14

dynamically controlling and adjusting ~~a gain of a photodiode employed for reading data~~

~~from the recording medium so that said error rate becomes small wherein the adjustment occurs~~

~~while reading user data from the disc in response to the bit error rate exceeding a predetermined~~

~~value; and~~ the reading conditions;

~~wherein the step of applying error correction comprises using an error correction means~~

~~that is comprised of a plurality of registers and a plurality of counters with at least one reset~~

~~signal generator.~~

wherein the step of controlling and adjusting the reading conditions includes performing

a control operation so as to determine a parameter that makes an error rate smaller before or

during playback of the recording medium, or if a condition of playback deteriorates, the control

operation including modulating the parameter at a predetermined frequency, calculating an

amount of error rate variation synchronized with the modulation, and varying the parameter in

proportion to the calculated amount.

Claims 21 - 27. (Canceled)

28. (Currently Amended) The readout controlling apparatus of claim 1, wherein the ~~step~~

~~of applying error correction comprises using an~~ error correction means ~~that is comprised of~~

includes a plurality of registers and a plurality of counters with at least one reset signal generator,

~~further~~ and

wherein the error correcting means employs a block number control circuit that changes a

cumulative number of blocks based on a cumulative block number ~~charge~~ change signal.

29. (Currently Amended) The readout controlling apparatus of claim 1, wherein the

error correcting means ~~is comprised of~~ includes a plurality of counters and registers with at least

one reset signal generator, and

the readout controlling apparatus further ~~comprising~~ comprises a selector electrically

connected between the counters and registers.

30. (Currently Amended) The recorder for recording data of claim 19, wherein the error

correcting means employs a block number control circuit that changes a cumulative number of

blocks based on a cumulative block number ~~charge~~ change signal.

31. (Currently Amended) The recorder for recording data of claim 19, wherein the error

correcting means ~~is comprised of~~ includes a plurality of counters and registers with at least one

reset signal generator and ~~further comprising~~ a selector electrically connected between the

counters and registers.

Appl. No. 09/503,140
Amdt. Dated September 7, 2005
Reply to Office Action of May 26, 2005

32. (Currently Amended) The readout controlling method of claim ~~20~~ 28, wherein the error correcting means includes a plurality of counters and registers with at least one reset signal generator, and

wherein the error correcting means employs a block number control circuit that changes a cumulative number of blocks based on a cumulative block number ~~charge~~ change signal.

33. (Currently Amended) The readout controlling method of claim ~~20~~ 28, wherein the error correcting means includes a plurality of counters and registers with at least one reset signal generator, and

further comprising providing a selector electrically connected between the counters and registers.

Please add the following new claims:

34. (New) A player, comprising:

reproducing means for reproducing data from a recording medium;

error correcting means for correcting error of said reproduced data;

error rate calculating means for calculating an error rate of said error correction; and

control means for controlling the reading conditions;

page 9 of 14

Appl. No. 09/503,140
Amdt. Dated September 7, 2005
Reply to Office Action of May 26, 2005

wherein the control means performs a control operation so as to determine a parameter that makes an error rate smaller before or during playback of the recording medium, or if a condition of playback deteriorates, the control operation including modulation of the parameter at a predetermined frequency, calculation of an amount of error rate variation synchronized with the modulation, and variation of the parameter in proportion to the calculated amount.

35. (New) A readout controlling apparatus as set forth in claim 1, wherein:

the recording medium is an optical disk; and

the control means controls at least one of an amount of light of a laser diode, a frequency of a signal superimposed on a signal before being applied to a laser diode, a gain of a photodiode, filter characteristics, focus conditions, tracking conditions, RF signal characteristics, an inclination of the optical disk, a speed of the optical disk, and servo control of a spindle motor.

page 10 of 14